CLAIMS:

1.   A method of processing images, in which
- individual images succeed one another in a direction of succession,
- a multi-dimensional data set is constructed from the individual images,
  - which multi-dimensional data set assigns data values to positions in a multi-dimensional space,
  - which multi-dimensional space is set up by the direction of succession and two directions parallel to the surface of the individual images,
- a slice through the multi-dimensional data set is reconstructed along a cut plane through the multi-dimensional space, and
- the direction of the cut plane has a component in the direction of succession, and in which
- a region of interest is located on the basis of the cut plane.

2.   A method of processing images as claimed in claim 1, in which
- segmentation of a region of interest from the one or more relevant images is performed in one or more of the individual images, and
- such segmentation is performed on the basis of information in the reconstructed slice along the cut plane through the multi-dimensional data set.

3.   A method of processing images as claimed in claim 2, in which
- an edge is located in the reconstructed slice, and
- the segmentation of the region of interest in the one or more images is performed on the basis of the location of the edge found in the relevant image.

4.   A method of processing images as claimed in claim 3, in which
- respective slices through the multi-dimensional data set are reconstructed along a plurality of cut planes through the multi-dimensional space, and
- the directions of the individual cut planes have components in the direction of succession,
- individual edges are tracked in the individual slices,

- and the segmentation of the region of interest in the one or more images is performed on the basis of the individual locations of the respective edges found in the relevant image.

5.   A method of processing images as claimed in claim 4, in which

5 - a boundary of the region of interest is derived by interpolation between the individual locations in the relevant image of the respective edges found.

6.   A method of processing images as claimed in claim 5, in which the interpolation is performed inter alia on the basis of a priori information concerning the region

10 of interest.

7.   An image processing system that is arranged to process individual images that succeed one another in a direction of succession, and

- to reconstruct a multi-dimensional data set from the individual images,
    - which multi-dimensional data set assigns data values to positions in a multi-
15   dimensional space,
    - which multi-dimensional space is set up by the direction of succession and two directions parallel to the surface of the individual images,
- to reconstruct a slice through the multi-dimensional data set along a cut plane through the
20   multi-dimensional space, where
- the direction of the cut plane has a component in the direction of succession, and to
- locate a region of interest on the basis of the cut plane.

8.   A computer program with instructions for processing individual images that succeed one another in a direction of succession, and for

25 - reconstructing a multi-dimensional data set from the individual images,
    - which multi-dimensional data set assigns data values to positions in a multidimensional space,
    - which multi-dimensional space is set up by the direction of succession and two directions parallel to the surface of the individual images,
30 - reconstructing a slice through the multi-dimensional data set along a cut plane through the multi-dimensional space, where
- the direction of the cut plane has a component in the direction of succession, and for
- locating a region of interest on the basis of the cut plane.

9.　　　　A medical diagnostic workstation that is provided with an image processing system as claimed in claim 7, for example, programmed by way of a computer program as claimed in claim 8.